

**System and Method for Reducing
Memory Leaks in Virtual Machine Programs**

ABSTRACT

A system and method is provided for reducing memory
5 leaks in virtual machine programs, such as those
encountered in programs running in the Java Virtual Machine
(JVM) environment. A compiler, such as a Java Just-In-Time
(JIT) compiler, is used to identify the last use of a
variable and, subsequent to the program statement where the
10 last use occurs, insert a nullification statement. The
nullification statement nullifies the variable so that it
no longer references an object stored in a garbage
collected heap. Variables in a program are identified in
the activation records of the program. The nullification
15 statement, when executed, severs the link between the
program and the objects stored in the garbage-collected
heap so that the program is no longer seen as a "root" for
the object, often enabling the garbage collector to reclaim
memory occupied by the object sooner.